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NEW GEOMETRIDAE IN THE TRING MUSEUM

By LOUIS B. PROUT, F.E.S.

SUBFAM, HEMITHEINAE.

1. Prasinocyma candida sp. nov.

 \Im , 30 mm. Face black. Palpus about $1\frac{1}{4}$, black, beneath and at base white. Antenna pectinate to about two-thirds, the branches short (scarcely 2), slightly thickening distally; white, tinged with buff. Vertex, thorax, and abdomen white, the thorax above tinged with buff. Foretibia and tarsus blackish, the legs otherwise white; hindtibia not appreciably dilated.

Forewing with apex not sharp, termen gently rounded; SC¹ free, R¹ very shortly stalked, M¹ just separate; white, absolutely without markings.—

Hindwing moderately broad, apex rounded, termen rounded, only inconspicuously bent at R³; M¹ connate; white.

Underside white.

Madagascar: Diego Suarez, January 3rd, March 4th, and April 24th, 1917, 4 さる (G. Melou).

The specimens are quite fresh, with no suspicion of having faded from green; in any case the rounded wings and black face point to an outlier from the bulk of the genus.

2. Omphacodes pulchritacta sp. nov.

Q, 28 mm. Face reddish brown. Palpus 1½ or 1¾; dirty whitish, third joint browner, not so long as second. Fillet white. Crown green. Antenna apparently not pectinate (only a short proximal part remaining). Thorax and abdomen green above, white beneath. Fore and middle legs (especially forecoxa) tinged with rose.

Forewing with costa arched, apex acute, termen strongly oblique, nearly as straight as in pulchrifimbria Warr., which it closely resembles in shape; SC¹ anastomosing shortly with C, DC² short, DC³ deeply incurved anteriorly, M¹ almost connate; bright green, the costal edge narrowly whitish buff; a short, inwardly oblique rosy streak from M¹ to near fold; fringe white.—

Hindwing with costa elongate, apex moderately rounded, termen not very strongly convex, slightly irregular, with an extremely weak but perceptible

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bend at R^3 ; SC^2 long-stalked, M^1 moderately stalked, DC^3 moderately incurved; costal margin white proximally; rest of wing concolorous with forewing; a rosy dot or short dash on M^1 ; fringe white.

Underside slightly paler, the rosy markings faintly showing through.

Central Abyssinia: Moraqui, January 9th, 1916 (O. Kovacs).

Differs from *pulchrifimbria* in the less long terminal joint of palpus, lack of rosy tips of fringe and presence of the rosy marks; a strong lens reveals single rosy scales on some of the anterior veins of both wings, indicating that the marks are part of an obsolete postmedian.

SUBFAM. STERRHINAE.

3. Epicosymbia spectrum sp. nov.

3, 30 mm. Face black. Palpus black, first and second joints pale beneath. Vertex whitish. Occiput narrowly dark fuscous. Antenna whitish proximally; pectinations about 3. Thorax and abdomen light brown, the latter with a blackish dorsal stripe, leaving free a white spot at base. Hindtibia without spurs; tarsus rather less than 1.

Forewing light brown; costal margin blackish fuscous to near apex; lines black; antemedian obliquely excurved between SC and SM², oblique inward to hindmargin; postmedian oblique inward from costa, forming a gentle and very shallow inward curve between costa and M¹, a shorter and deeper one between M¹ (or M²) and SM², the angles outward at M¹ and SM² not acute; area between these lines blackish fuscous, but containing a large circular patch of the ground colour between C and M, with the black cell-dot in its centre; subterminal as deeply sinuous as in nitidata Warr., but with the subsidiary denticulation almost wanting.—Hindwing with cell-dot minute; antemedian far proximal to it, gently incurved and weak in cell, bluntly angled outward at M, thicker and oblique outward to abdominal margin; subterminal much as on forewing but more proximal, angled on R¹.

Underside paler, the markings, except cell-dots and subterminal, shadowy, the subterminal on hindwing more distal than above.

East Africa: Nabagulo Forest, 15 miles from Kampala, October 25th – November 6th, 1921 (W. Feather).

4. Scopula mesophaena sp. nov.

39, 17-19 mm. Face black. Palpus black, beneath whitish proximally. Vertex and antenna white; antennal joints in ♂ slightly projecting, the cilia fairly long (well over 1). Collar tinged with ochreous. Thorax and abdomen white, with fine and sparse black irroration. Foreleg slightly infuscated; hindtibia in ♂ slender, the tarsus longer than the tibia.

Forewing not very broad (slightly narrower in $\mathfrak P$), apex not acute, termen smooth, oblique, very gently curved; white, with sparse and very fine black irroration; a tinge of brown along costa and subcostally; cell-dot rather small, but sharply black; lines brown; antemedian extremely fine, very oblique from hindmargin near base to cell near its end, obsolete anteriorly; median thick and strong, very oblique and straight from middle of hindmargin to SC about $1.5\,\mathrm{mm}$. from termen, here recurved and weakened; postmedian fine, curved, very near

termen, parallel with it anteriorly, slightly more oblique posteriorly, subterminals both present but weak, parallel with and close to postmedian; terminal dots black, strong, connected by a faint line; fringe concolorous.——Hindwing (at least in the $\mathfrak P$) rather narrow, termen smooth, rounded, except near tornus; cell-dot as on forewing; median shade just proximal thereto, strong; postmedian and subterminal curved, especially anteriorly; termen and fringe as on forewing.

Forewing beneath suffused with brown except at hindmargin, hindwing white; markings of upperside reproduced, excepting the antemedian of fore-

wing; median weaker than above.

Kenya Colony: Kibwezi, May 6th, 1920, type \Im , December 1920, 1 \Im , 2 \Im (W. Feather).

Smaller and less slenderly built than fragilis Warr. (1903), whiter, with stronger median shade and more strongly marked hindwing. Occurs also at Taveta.

SUBFAM. LARENTIINAE.

5. Eois ingrataria tambora subsp. nov.

Differs from *i. ingrataria* Warr. (Novitates Zoologicae, v. 23, Assam) in having the lines much feebler but apparently more numerous, and in having on the discocellulars of the forewing a conspicuous, more or less elongate, pale yellow, partially reddish-edged spot, which in *i. ingrataria* is only represented by a small and inconspicuous dot.

Sambawa: Tambora, April-June 1896 (W. Doherty), 13 33.

6. Eois (Pseudasthena) suarezensis sp. nov.

δ♀, 20-24 mm. Superficially similar to lunulosa Moore. Smaller on an average.—Forewing relatively rather shorter, termen less oblique anteriorly, more bent in middle; generally more reddish in tone, the red lines thicker, more evenly spaced; cell-dot generally rather smaller; antemedian line often and postmedian nearly always mixed with dark grey, the latter line more proximal, especially anteriorly, where it bends baseward; terminal dark dots sub-obsolete.—Hindwing similarly marked, the base rarely clear yellow.

Madagascar: Diego Suarez, March 26th-28th, 1 ♂, May 26th-June 27th, 5 ♂♂ and 6 ♀♀, including the type ♂, July 24th-29th, 1 ♀ (G. Melou, 1917).

Perhaps a race of the widely distributed grataria Walk., which in continental Africa sometimes produces rather similar aberrations. One Madagascar \mathcal{Q} is a yellowish ab., with the median area more solidly clouded with violet-grey.

7. Xanthorhoë transjugata sp. nov.

3, 29-32 mm.; Q, 32-35 mm. Smaller than transcissa Warr. (Novitates Zoologicae, ix. 514, British East Africa), especially in the 3. Antenna of 3 as in that species, with short, well-ciliated pectinations and secondary processes (cf. fluctuata Linn.). Abdomen dorsally with rather conspicuous paired (generally subconfluent) black spots.——Forewing with basal patch generally almost concolorous with the succeeding area, on which also the dark suffusions of transcissa are generally quite undeveloped; antemedian line strongly excurved

but not (as in *transcissa*) angulated, never bisecting the median band; median band in $\mathfrak P$ broad, in $\mathfrak S$ moderate, its anterior half partly suffused with black, especially in a longitudinal streak at R^3 , in front of this streak and distally to the cell-spot generally pale; posterior half of median band variable, as in *fluctuata* Linn., being sometimes solid, but in the $\mathfrak S$ more usually dissolved into undulate lines, the central ones of which commonly meet (at least at fold and SM^2) and enclose pale circles; postmedian line deeply indented at SC^6 ; terminal dark shade narrower and weaker than in *transcissa*, especially in the $\mathfrak S$, the subterminal line less deeply lunulate, and with the sharp white tooth behind R^3 replaced by a much less conspicuous white lunule or mere spot.

Kenya Colony: Escarpment, 6,500-9,000 ft., January-March 1901 (W. Doherty), a long series, misidentified by Mr. Warren as his *ansorgei* (Novitates Zoologicae, vi. 299), which has merely fasciculate of antenna and various other differences.

8. Xanthorhoë curcumoides sp. nov.

3, 28–30 mm. Closely similar to curcumata Moore (vide Prout, Ent. Mitt. Deutsch. Ent. Mus., iii. 246, Euphyia). Antennal ciliation longer (nearly 2, against scarcely 1), forming more definite, paired fascicles.—Forewing with median band slightly more tinged with red-brown, on an average slightly narrower, its proximal edge generally less sharply defined, the proximal area being darker suffused; the proximal indentation of the band on fold wanting; the double lobe of band between R³ and M² shorter; distal area much paler, the only eonspicuous dark markings being the small, interrupted eostal patch, the twim wedges between the radials (here well differentiated, whereas in curcumata they are more or less connected into a single blotch) and a small terminal patch behind SC⁵.—Hindwing, on the contrary, darker and more unicolorous than in curcumata, even the costal edge only very slightly lightened.—Underside as in curcumata, or with the eell-spot of hindwing on an average smaller or weaker.

Assam: Cherrapunji, August 1893, type; "Khasis" (native collector, without exact localities), March, April, May, and October, 6 33; also 3 33 in coll. Joicey. Sikkim: Kurseong, 5,000 ft., 1 3 in coll. T. B. Fletcher.

A \mathcal{P} in coll. L. B. Prout, also from the Khasis, shows that there is no marked sexual dimorphism; median band, as usual in \mathcal{P} of the genus, fairly broad.

9. Xanthorhoë hyphagna sp. nov.

3, 28 mm.; 4, 30 mm. Face pale green, coarsely irrorated with black. Palpus just over $1\frac{1}{2}$; predominantly black. Antenna blackish; pectinations slender, rather long. Vertex and thorax pale greenish; patagia variegated, crossed by two black bands; metathoracic tuft black. Abdomen dorsally irrorated with red-brown and heavily blotched with black.

Forewing pale greenish, irrorated (especially on postmedian line) with white; markings brown-red, so densely irrorated with black as to appear to the naked eye uniform brown-black; subbasal band moderate, straightish; succeeding band broader than the pale areas which bound it; the pale area beyond it with dark bisecting line; median band containing black cell-mark and traversing lines; its width moderate in \Im , broad in \Im , proximal edge gently curved and minutely crenulate, distal erenulate, weakly incurved between the

radials, moderately bilobed in middle; band beyond with bisecting line weak, limiting line stronger; distal area with costal patch fairly large proximally, tapering outside subterminal, twin radial spots wedge-shaped, subconfluent, a terminal cloud as far as \mathbb{R}^3 , leaving a broad oblique apical streak of ground-colour between it and costal patch; subterminal line fine, white, in the $\Im \Im$ only defined on the dark areas; fringe dark-clouded opposite the veins.——Hindwing whitish, in the \Im rather less clear; cell-dot small, terminal dots in \Im very small, in \Im confluent into dashes.

Forewing beneath more glossy, more suffusedly marked, nearly uniform from base to postmedian. Hindwing with dark irroration, strong cell-dot, moderately distinct crenulate and curved postmedian line, and vague subterminal markings.

W. Java : Bandong (type 3), Dradjad, Preanger R. (3), Pengalengan, Preanger (\mathfrak{P}).

Recalls some Indian species (griseiviridis Hmpsn., curcumata Moore, and curcumoides Prout) in coloration and markings of forewing, but has the antennal pectination only a little less long than in ludifica Warr. (Novitates Zoologicae, v. 30).

10. Ortholitha vacuimargo sp. nov.

3, 47 mm. Near pulchrata Alph. and adornata Stgr., in some respects intermediate. Structure similar. Head and body coloured as in pulchrata.

Forewing very slightly broader than in pulchrata; tone slightly intermediate towards adornata, the extreme weakness of irroration giving it somewhat the smooth, glossy aspect of that species; cell-mark wanting; subbasal line rather sharp, dark-brown, straighter than in the allies, accompanied proximally by a weaker line; antemedian band strong, nearly as thin as in adornata but slightly more oblique inward, gently incurved in anterior half, bluntly angled outward on base of M²; postmedian much as in the 3 of pulchrata, but with the blunt lobe between R³ and M² double, being rather sharply indented on M¹; two faint lines proximally to the postmedian; distal area almost unmarked, the oblique black apical dash wanting; terminal line brownish, very weak.—
Hindwing similar to that of adornata, but even whiter; cell-dot wanting.

Underside more whitish than in the allies; cell-dot wanting.

Tibet: Sinin (received as "n.sp. Stgr. 1894," but not dealt with by Mr. Warren).

11. Sarracena euides sp. nov.

3, 36 mm. Smaller than *chlamydaria* H.-Sch. Antennal pectinations longer, especially those of the inner series, which in *chlamydaria* are quite rudimentary.

Forewing with the hindmarginal lobe slighter than in chlamydaria; the specialised scaling beneath much less developed; coloration and markings closely similar, lines slightly yellower, the middle one more strongly oblique where it crosses the pale costal area, the postmedian more deeply incurved between R¹ and SM², not bisected by a red line.——Hindwing with the apex not falcate, merely somewhat produced (about as in Phyllia Blanch.); anteriorly much more ochreous than in chlamydaria 3 and to a rather larger extent, the

posterior green patch scarcely separated from the ochreous by any grey shading; the line slightly yellower, not bisected.

Forewing beneath with less extended red anteriorly, outer line as above: hindwing with the black line sharply bent about R1, oblique inward to costa.

S.E. Peru: Agualani, Carabaya, 9,000 ft., December 1909, wet season (G. R. Ockenden).

12. Larentia irma sp. nov.

3, 36 mm. Head and body white, closely irrorated with dark fuscous, mostly paler beneath than above. Abdomen above with indications of paired dark spots. Palpus rather long (about 2), roughly scaled. Antennal pectination rather longer and less stiff than in the genotype (clavaria Haw.). Metathoracic crest well developed.

Forewing with termen slightly less oblique than in clavaria, more markedly erenulate: white, very closely irrorated with fuscous and blackish, so that to the naked eye the whole wing appears dark with faint ripplings and with the four principal lines remaining white; subbasal almost straight, from costa at 4 mm. to hindmargin at 2 mm.; antemedian from costa at 6.5 mm. to hindmargin at 3.5 mm., rather acutely angled inward at M, deeply exeurved between this and SM2; postmedian bluntly angled outward behind R3 and slightly bent inward at M², with slight teeth inward at all the veins, a deep one at SC⁵; subterminal lunulate-dentate, slightly interrupted at SC5 (whence an oblique and sinuous, faintly darker line is traceable to apex), slightly more proximal before the interruption than behind it; cell-dot blackish, rather thin; a dark terminal line, interrupted by white dots at ends of veins; fringe with a slight pale line at base. Hindwing with apex even more produced than in clavaria, termen rather less convex, with stronger teeth; paler than forewing, darkening a little at border, in which the subterminal line is traceable nearly to apex; distal half of abdominal margin, broadening to tornus, concolorous with forewing and showing the beginnings of lines, especially a double whitish postmedian; cell-dot small and very weak.

Underside feebly marked, but with distinct cell-spots, especially on hind-wing; forewing with a slight dark costal spot proximally to the subterminal.

Patagonia: Nahuel Huapi, June 1912.

A worn pair from Valley del Lago Blanco, Chubut (\Im 39 mm., \Im 36 mm.), suggest that the species is variable, the shape of the median band being apparently more regular in them, the white lines obsolescent, etc.

13. Larentia oculisigna sp. nov.

 $\Im \mathfrak{P}$, 38-39 mm. Related to the preceding, but very anomalous in appearance, the wings being narrowed, with termen of forewing highly oblique posteriorly, tornus rounded. Palpus slightly longer; terminal joint partly, but not wholly, concealed. Pectinations short, subclavate (somewhat as in Kuldscha Alph.).

Forewing whitish, mostly clouded with brown, leaving patches of the ground-colour with only dark waved lines, namely, an ill-defined, obliquely bounded patch at base of hindmargin, traversed by dark oblique subbasal band; an ill-defined, rather irregular, oblique band (circ. 4 mm. wide) from rather before

middle of hindmargin directed towards apical part of costa, on the proximal edge of which band is placed the small black eell-mark, conspicuously surrounded with white (on the middle of this band, between M² or M¹ and hindmargin the lines are confluent into oval ocelli); a narrow, elongate tornal patch to M², bounded proximally by the subterminal, which in the rest of its course is scarcely indicated except by vein-dots; terminal line black, slightly interrupted at the veins; fringe traversed by a basal and a central pale line.—Hindwing and underside corresponding to those of irma, the underside, however, brown instead of whitish fuscous.

Patagonia: Valley del Lago Blanco, Chubut (Thursby), 2 33, 2 99.

Two larger males (43 mm.), more strongly marked, from Nahuel Huapi, show this also to be a variable species; in both, the central band reaches costa very clearly; in one it is yellowish white, the cloudings nearly typical, in the other it is whiter and all the cloudings blackish fuscous.

14. Gonanticlea meridionata nesaea subsp. nov.

্র্বি, 28-31 mm. Smaller and darker than m. meridionata Walk. (1862),

from the Cape, hindwing beneath more strongly marked.

Comoro Islands: Grande Comoro, September 1921 (\circlearrowleft type), August 23rd and October 1921 (2 \diamondsuit \diamondsuit); Anjouan Island, July 17th, 1911 (1 \diamondsuit). All collected by G. F. Leigh.

Electrophaës gen. nov.

Electra Curt., Brit. Ent., xiii. 603 (1836), nec Steph. (nom. praeocc.).

Face rather flat, slightly or scarcely sloping, scarcely rough-scaled, without cone below. Palpus longish, first joint rough-sealed beneath, second rough-scaled, the scaling more erect above than beneath, third moderate, partly exposed. Tongue developed. Antenna in 3 pubescent or minutely eiliated. Pectus slightly hairy. Femora glabrous. Hindtibia with all spurs. Metathorax crested. Abdomen not erested, in 3 with anal part rather long, typically with lateral-ventral tufts posteriorly.

Forewing moderate or slightly elongate, apex moderate or rather blunt, termen smooth; eell almost one-half, DC normal; areole double, SC¹ from before its end, R¹ generally stalked, R² rather before middle, M¹ separate.—Hindwing moderate or very slightly elongate, angles not sharp, termen smooth, rounded; cell about two-fifths, DC oblique, especially posteriorly, sometimes weakly bent; C anastomosing to near end of eell, SC² stalked, R² from slightly before middle of diseocellulars or about central. Larva (E. corylata) with head bifid, supra-anal flap ending in a single point.

Type of the genus: Electrophaës corylata (Thnbg.) = Geometra corylata

Thinbg.

Pierce (Genit. Brit. Geom., p. 66) merges this in Plemyria, but the morphological differences are too considerable, apart from those of the larva, and even the genitalia are only approximately homogeneous. The genus, though evidently referable to the natural group which is nearly covered by the Cidariinae + Therinae of Pierce ("anellus lobe" group), is somewhat anomalous and seldom shows much tendency towards the biangulate form of the discocellulars of the hindwing which generally characterises it. The coremata are rudimentary.

The following species (perhaps in part subspecies—no very far-reaching investigations have yet been possible) should be referred here: corylata Thmbg. (1792), fabrefactaria Oberth. (1880), granitalis Butl. (1881), albida Herz (1903), tsermosaria Oberth. (1893), aliena Butl. (1880), niveonotata Warr. (1901), perpulchra Butl. (1886), chrysophaēs Prout (sp. nov.), fulgidaria Leech (1897) (= aurata Moore (1867), nee Pack. 1866), nigrifulvaria Hmpsn. (1902), albipunctaria Leech (1897), niveopicta Warr. (1893), chimakaleparia Oberth. (1893). All are Palaearetic or North Indian, and therefore traceable through the works of Seitz and Hampson.

15. Electrophaës chrysophaës sp. nov.

3, 24-26 mm. Smaller than fulgidaria Leech, slightly narrower-winged. Antennal ciliation slightly less vestigial.

Forewing with boundary-line of dark basal patch blunt in cell, but with a marked angle behind M, which is wanting in fulgidaria; subterminal line with an elongate proximal tooth on R², the golden-brown shade which precedes it consequently here bent.——Hindwing yellower than in fulgidaria. Forewing beneath with apex not, or scarcely, dark-mixed, the dark subterminal shade between SC⁵ (or SC⁴) and R³ more sharply differentiated. Hindwing beneath with the postmedian less zigzag than in fulgidaria, finer, more fuscous (less yellow-mixed).

North India: Khasia Hills, February 1894 (type 3), November 1893 (2 3 3, Cherrapunji) and 3 undated (2 Shillong); Sikkim, April 6th, 1888 (Möller), Sikkim Interior (Möller), Darjiling. Further paratypes from Shillong (coll.

L. B. Prout), Khasia Hills (Brit. Mus.; Hill Mus.).

Unless this be a tiny golden race of *perpulchra* Butl. vera (N.W. Himalayas), of which I know only 9, and which has been wrongly sunk, it is hitherto undescribed.

16. Thera comitabilis sp. nov.

Larentia comis part. Hmpsn., Faun. Ind. Moths, iii. 379 (1895), nec Butl. Near comis Butl. (Japan), the antennal structure similar but with the branches slightly shorter. Wing markings apparently equally variable.

Coloration darker, recalling dark forms of Electrophaes corylata.

Forewing with the white edgings of bands more sharply expressed, in general broader; antemedian less oblique outward anteriorly and without the marked projection inward in front of SM², sometimes with, sometimes without, the acute tooth outward (into the median band) at fold; postmedian with a tooth outward on R¹; teeth of subterminal dark-filled proximally; no prominent black mark on hindmargin between subbasal and antemedian, the greater part of this area, on the other hand, noticeably dark-clouded; a slight apical dash.

Sikkim (ex coll. Elwes): Jongri, 13,000 ft., 1887, type &; Tonglo, 10,000 ft.,

July 1886, allotype ♀; "Sikkim" (Knyvett), ♀.

17. Cirrhorheuma androconiata sp. nov.

3, 25-27 mm. Similar to pallidimargo Warr. Head and body browner (less greyish-fuscous).

Forewing with termen a little bent in middle; beneath, in addition to the

tufts of erect blackish hair, with an extended patch of bright ochreous-brown androconial scaling, anteriorly crossing R³, posteriorly nearly reaching hind-margin and distally reaching about to the middle of R³ and M¹; whitish, clouded with brown, brighter and much more variegated than pallidimargo; lines distinct; antemedian much less oblique inward at costa; median often in part duplicated, forming irregular rings or spots; postmedian denticulate, gently excurved in its anterior part; the white subterminal not angulated about R²; distal area pale, but less sharply contrasted than in pallidimargo.——Hindwing rather paler than in pallidimargo, abdominal margin folded, browner than the rest.

Underside brighter than in pallidimargo.

Peru: Oconeque, Carabaya, 7,000 ft., July 1904, dry season (G. Ockenden), 6 &\$\mathscr{G}\$, including type; Cushi, Huanuco, 1,900 m. (W. Hoffmanns), 4 &\$\mathscr{G}\$. Also in other collections.

This species has been passing as *pallidimargo*, of which Warren's type, so far as I know, remained unique until last year, when I obtained 2 33, which were collected at Oxapampa.

18. Triphosa oenozona sp. nov.

3, 51 mm.; Q, 52 mm. Face fuscous; frontal tuft developed. Palpus moderate, blackish. Head and body drab, the vertex, tegulae, and patagia largely rufescent; a blackish band indicated across front of thorax; abdominal tergites posteriorly spotted or belted with pale rufous and with (generally weak) paired blackish spots as in the *sericata* group.

Forewing variegated, the drab or brown ground-colour only showing here and there; a slender, waved, vinaceous-rufous subbasal band, becoming blackish at costa and finely dark-edged almost throughout; a whitish line succeeding, except at costa; a less definite rufescent band between this and the median area, bounded on each side by a dentate (on the veins black-dotted) line, nearly twice as far from the base anteriorly as posteriorly and with its distal boundaryline angled outward in cell; median fascia light cinnamon-rufous with a tinge of vinaceous, 8 or 9 mm. wide at costa, a little less at hindmargin, a little less still between the radial and submedian folds, its edges irregularly lunulate-dentate, the proximal with a rather deep bay in cell (not quite reaching cell-spot), the distal similar to that of rubrodotata Walk., but with the lobes at M1 more rounded off; the wavy lines on this fascia feeble, excepting a sharply black one near its proximal edge, which expands into a costal triangle like that of sericata Butl.; cell-spot and postmedian and subterminal costal marks also as in sericata; ill-defined whitish belts proximally and distally to the median fascia, each divided by a brownish line; subterminal line whitish, dentate, somewhat interrupted, enlarged subtornally as in rubrodotata; the rest of the distal area mostly with rufescent shading, whitish only in front of R1 between postmedian and subterminal; terminal line black; veins, except in median area, dotted with black and whitish; fringe with a pale vinaceous line at base, a dark band in middle.—Hindwing pale drab with a tinge of brown; markings much as in sericata, with the characteristic subbasal band of that species well developed, the postmedian rather less bent, the subterminal finer, shades accompanying it more complete (extending to termen and almost to costa), more vinaceous.

Underside as in rubrodotata or sericata.

Assam: Khasia Hills, 3 & d, 1 \overline{\text{.}} Also 1 & in coll. L. B. Prout.

19. Calocalpe intersita sp. nov.

3, 40–41 mm. Face with small pointed cone below. Palpus rather short (less than $1\frac{1}{2}$). Head and body fuscous. Palpus with first and second joints beneath pale proximally. Abdomen, at least at base, with faint indications of

paired dark dorsal spots.

Forewing slightly less broad than in affirmata Guen., the termen behind middle curving somewhat more obliquely; fuscous, the markings consisting of waved darker and lighter lines, about as numerous as in undulata Linn., though coarser and slightly less regular; veins more distinctly spotted; median area scarcely differentiated, except by a costal thickening and straightening of its lines and slight widening of the pale pairs that bound it; cell-mark rather large, black; subterminal line very fine, its proximal dark bordering rather broad, in places (at least between the radials) somewhat intensified, a pale expansion between M² and SM² about as in affirmata; termen and fringe as in affirmata.

—Hindwing slightly narrower than in affirmata, the sexual tuft at abdominal margin strong and blackish; markings beyond cell-spot strong, corresponding to those of forewing.

Underside more strongly marked than in affirmata.

French Guiana; St. Jean de Maroni, 2 33.

A ♀ from Potaro River, British Guiana, April 1908 (S. M. Klages), is slightly

larger (44 mm.), but otherwise agrees exactly.

Although the description of this species agrees pretty closely with that of the variable affirmata, the actual effect is very different on account of the smaller size, appreciable difference of shape, less warm colour, and especially the more even strength of the markings, which, with the strong variegation of the veins, etc., produce a nearly uniformly dotted appearance not comparable to any Calocalpe known to me.

20. Eutrepsia neonympha sp. nov.

33 mm. Similar to metagrapharia Walk. (List Lep. Ins., xxv. 147% = coenonympha Feld., Reise Novara, Lep. Het., t. cxxx. f. 4, 4a), conceivably a very remarkable aberration thereof. Face with the same white stripe down each side. Thorax and abdomen above darker.

Forewing with basal area broadly vandyke-brown (to 5 mm. at costa, to 7 or 8 mm. at SM³, the hindmargin continuing very narrowly of that colour to tornus); apical black area somewhat extended at costa, the orange central area consequently tapering anteriorly to only 1.5 mm.; subapical orange dash rather short and oblique.—Hindwing above uniform vandyke-brown.

Forewing beneath with basal area similar, the orange median band white from costal margin to C; subapical mark white (as also in *metagrapharia*); submarginal line less pure white. Hindwing with the white markings, except the submarginal, greatly narrowed, the longitudinal band beyond cell replaced by two widely separated lines, the anterior between R² and R³, the posterior behind R³; all the veins (except for the narrow white mark on DC²) and both folds bright brown.

Mexico: Guerrero (O. T. Baron).

21. Eutrepsia gadowi sp. nov.

3, 32 mm. Near cydonia Druce (Biol. Centr.-Amer., Lep. Het., ii. t. 58, f. 16, 17).—Forewing perhaps slightly squarer, with a superficial suggestion of the Scordylia quadruplicaria group; the orange area rather more prolonged in the direction of tornus (its distal edge from costa to between M¹ and M² being more oblique), on the other hand restricted by irregular dark hindmarginal clouding, which proximally reaches the cell, medially scarcely crosses SM², and distally broadens again slightly and blackens, joining the distal border.—Hindwing marked almost as in haemataria H.-Sch. (Samml. Aussereur. Schmett. i. fig. 320, 321 = substriata Dyar, Proc. U.S. Nat. Mus., xxxviii. 260, syn. nov.).

Forewing beneath with curved whitish subapical streak as in *cydonia*, but with the red shade continuing thence to apex; costal margin also reddened, with a whitish spot beyond middle. Hindwing with the red markings much broader than in *cydonia*, more as in *haemataria*, but with the red border not black-mixed; distinct from both in the maculation of distal half of costal region, which consists of a short red band opposite the furcation of SC² with R¹, running into the streak behind R¹, and a narrow pale band of the ground-colour between this band and the terminal border.

Mexico: Omiltene, 1,700-2,000 m., wooded mountains, July 9th-12th, 1904 (Dr. Gadow).

22. Stamnodes gaudialis sp. nov.

3, 34 mm. Head brown, face narrowly edged with creamy white. Palpus $1\frac{1}{4}$, fuseous, at base whitish. Antenna with minute ciliation (searcely $\frac{1}{3}$). Thorax and abdomen brown, beneath mixed with whitish. Tarsi and middle and posterior tibiæ mostly pale.

Forewing with costa rather markedly arched near apex, termen little rounded, rather strongly oblique; glossy ochre-yellow; markings grey-brown; a small basal patch, about 3 mm. at costa, 2 at hindmargin, very gently concave-edged; a triangular costal patch beyond middle, nearly 4 mm. broad at costa, its apex on R¹, blunt; a somewhat paler-rippled distal border, 4.5 mm. broad at costa, where it is only narrowly separated from the triangular patch, narrowing rather rapidly behind R², tapered to a point about submedian fold, continued as a slight terminal line to tornus.——Hindwing relatively rather small, termen less produced about R¹ than in margarita Warr. (1905), dukinfieldi Warr. (1900), etc.; ochre-yellow, with brown basal and terminal shading, the postmedian line of underside indicated in paler yellow; fringe red, slightly mixed with white, especially at tips and about the radials.

Forewing beneath nearly as above, the brown rather deeper, a costal line connecting basal patch with outer triangle, a red suffusion behind this line (as far as SC and R¹), the streak between triangle and border white, the border pale except proximo-costally. Hindwing with whitish markings, almost exactly as in dukinfieldi but rather narrower, the postmedian obsolete tornally.

E. Peru: Huancabamba, Cerro de Pasco (E. Boettger).

23. Lithostege interstincta sp. nov.

Q, 19-21 mm. Face and palpus irrorated, brown, blackish, and white; vertex similar, with rather more white. Tongue short. Thorax white, strongly

irrorated with black and slightly with brown. Abdomen robust; pale brown. Foretibia with a strong claw above and a smaller (about half its length) beneath.

Forewing rather clongate; white, strongly irrorated with olive-brown, black-tipped scales, leaving free some ill-defined streaks in and behind cell, parts of the median area (especially between bases of median veins), and a broad subterminal line; the irroration heaviest at the edges of the bands, especially beyond the postmedian, where it forms a supplementary band, originating in an oblique apical streak, widening in the middle and cut by some white vein-streaks which run in from the subterminal; markings russet, with a tinge of ferruginous, consisting of a subcostal streak (from base to first band) and two bands formed much as in lapsicolumna Prout, Ann. Transv. Mus., v. 165, t. 25, f. 20 (i.e. the first the more oblique and not reaching costa, the second more parallel with termen), but with the second inbent in middle and deeply indented distally by white on the veins; terminal line fine, scarcely interrupted; fringe whitish, with a grey dividing-line and feeble grey spots.—Hindwing narrow, costally elongate; pale drab-grey; terminal line and fringe nearly as on forewing.

Both wings beneath grey, the forewing with faint traces of the upperside markings in anterior part and especially of pale spots proximally and distally to the outer brown band.

Kenya Colony: Uaso Nyiro (Guaso Njiro), 3,000 ft., December 1920 (W. N.

van Someren), type and another.

The of will probably prove to belong to the pectinate section Conchylia Guen., though the species is not glossy.

24. Scordylia primulimacula sp. nov.

3, 25-27 mm. Group of conduplicaria Hb. Head and body coloured as in that species.

Forewing with the costal margin slightly more shouldered at base than in conduplicaria; black, with the markings primrose yellow; costal markings minute, the subbasal fine, antemedian and postmedian slightly more triangular, median wanting; the patch on middle of hindmargin large, measuring 4-4.5 mm. on the margin, anteriorly rather broadly rounded, almost reaching base of M¹; fringe chequered with whitish.—Hindwing with slight dark base and broad black border, as in conduplicaria, the central band primrose yellow.

Underside as in conduplicaria, the postmedian costal spot on an average

shorter, though much larger than above.

Panama: Boquete, Chiriqui, 3,500 ft. (Watson), type and others. Also

in other collections from Costa Riea and Panama.

Druee (Biol. Centr.-Amer., Lep. Het., ii. 152), with fine disregard of geographical considerations, identified this as basilata Guen. and consequently opined that that was not a synonym of conduplicaria Hb. Both Hübner's and Guenée's types, however, were from the district of Rio, and their figures well exhibit the species which occurs there and in Paraguay, and of which Warren's restricta (Novitates Zoologicae, xiv. 258) is a slight ab.—almost synonym (cf. Berg, An. Soc. Cient. Arg., xvi. 271). In these forms the colour is more maizeyellow, the costal spots large, etc.; primulimacula may possibly be a subspecies, but looks very distinct, and I do not know representatives from any intervening localities.

25. Erateina prodiga sp. nov.

3, 25-26 mm. Head dull red, mixed with black; a whitish ring round eye; palpus mixed with whitish beneath. Antenna black, minutely ciliated. Body above black, with a slight admixture of pale scales, beneath mixed with red and white, sides of abdomen mainly red, front of pectus white. Legs spotted.

Forewing short and broad, apex rounded (more so than in arocha Druce); brownish black; two large, slightly hyaline creamy-white spots a little beyond the cell; the first between SC and R¹, about 2 mm. long, in its middle with a smaller extension behind R¹; the second between R³ and M¹, nearly 3 mm. long, its ends rounded; a minute spot (in one example almost obsolete) in front of R³ at proximal end of second spot; fringe chequered with white (interneural) and tipped with dark red.—Hindwing narrow and elongate, termen weakly (behind R³ deeply) crenulate, forming a slight tail at R³; a moderately arge folded flap beneath (just over ½ length of abdominal margin); brownish black, with a large ochraceous-rufous area from behind R¹ almost to tornus, its length from tornus basewards 5 or 6 mm., but encroached upon by the ground-colour at base of R³ and M¹ and separated from termen by about 1·5 mm. between the radials; fringe more narrowly pale-spotted than on forewing.

Underside of forewing predominantly ferruginous, except behind M and M², of hindwing more orange-rufous; forewing with the spots of upperside and small additional ones on mideosta (rather yellower) and behind end of posterior large spot (rather greyer, transversely elongate); hindwing proximally mottled with whitish, ochreous, and brick-red, edge of flap brick-red; an irregular postmedian line of confluent white-grey spots, acutely angulated inward in front of R², excurved anteriorly and posteriorly.

S.E. Peru: Oconeque to Agualani, Carabaya, 6,000-9,000 ft., March 1905 (G. Oekenden), 3 &&.

Labelled by Warren as bosora Druce, but quite different in the more tailed hindwing (though rather broader than in arocha and meduthina Druce), the large white spots, etc. etc. In one aberration the rufous area of hindwing is more restricted.

26. Anemplocia melambathes sp. nov.

φ, 38 mm. Head and body black, shot with blue; cheek bluish white. Palpus with third joint longer than in the type species (flammifera Warr.).

Forewing slightly less broad than in flammifera; orange, the extreme costal edge interruptedly marked with black; apex, distal and hind margins black, the boundary starting at five-ninths costa, very slightly oblique to behind R¹, then making a wide outward sweep (curve) so as to approach termen (little over 1 mm. distant) between the medians, widening again to 2 mm. at tornus and searcely less along hindmargin.—Hindwing black.

Underside similar, the hindwing with the basal cell and almost the whole costal area (to C) whitish buff, more or less irrorated with orange.

Peru: Cushi, Prov. Huanuco, 1,900 m. (W. Hoffmanns).

A good mimic of the Dioptid genus Scea, especially S. erasa, which occurs with it at Cushi.

27. Pardodes flavimacula Warr.

This species, which occurs without noteworthy variation from Dutch New Guinea to Rossel Island (though more extensive material may possibly establish a race for Dutch New Guinea), produces strikingly differentiated forms on New Hanover and Woodlark Island. The name-typical, banded form has been intelligibly described by Warren (Novitates Zoologicae, iii. 295), although the fourth (subterminal) "band" cannot accurately be called "double," as it consists merely of a curved line, thickening into blotches at SC'-R¹ and R²-M¹, and he overlooks the (generally very weak, costally obsolete) subbasal and postmedian. The other forms may be distinguished as:

P. f. absorpta, subsp. nov. Forewing with basal and subbasal markings broad and solid, almost confluent; antemedian and postmedian bands, except at costal margin, confluent into a solid median band of an average breadth of about 4 mm.—Hindwing with the markings on an average much stronger than in f. flavimacula.

New Hanover, February-March 1897 (Webster), 10 33. A race from Rook Island, of a more uniform orange tone, will probably prove differentiable, but I only know three specimens in indifferent condition.

P. f. woodlarkensis, subsp. nov. Intermediate between the other two races, though nearer *f. absorpta*, the yellow ground-colour a little more tinged with orange than in either. Subbasal and median bands of forewing generally nearly as solid as in *f. absorpta*, but traversed (especially in the middle of the median band) by very noticeable paler shading, which occasionally even forms definite bisecting bands of the ground-colour.

Woodlark, 1895 and March 1897 (A. S. Meek), 8 ♂♂, 5 ♀♀.

One of the males (the largest) is an aberration practically indistinguishable from f. flavimacula; one or two other males and one female are in some measure transitional towards it, but these exceptions clearly do not invalidate the tenability of the race.

Desmoclystia gen. nov.

Face typically with small cone of scales. Palpus moderate or rather long, 2nd joint heavily scaled, 3rd distinct, though typically rather short. Tongue developed. Antenna of 3 bipectinate (Nos. 1-3), fasciculate (4-5), or more evenly ciliated (6-9). Pectus and femora not hairy. Hindtibia with spurs fully developed. Abdomen slightly crested.

Forewing moderately broad, termen smooth, gently curved, not very oblique; areole double, both ample, SC² proximally forked, one branch running to C, the other to proximal areole near its end, R¹ connate or separate, R² central.

—Hindwing much as in Eupithecia, generally larger in proportion.

Genitalia of \mathcal{J} with 7th segment coremata; two long slender arms arising apparently from juxta (as also in Xenoclystia); remarkable for the long 8th segment.

Type of the genus: Desmoclystia unipuncta (Warr.) = Xenoclystia unipuncta Warr. (1906).

I unite provisionally a group of species sharing the very specialised subcostal venation noted, namely: 1. unipuncta Warr. (1906); 2. humerata Warr. (1906); 3. hirticosta Warr. (1907); 4. rubecula Warr. (1906, as Ochyria); 5. prodiga Warr. (1907, Ochyria); 6. dilataria Warr. (1906, Ochyria); 7. fulvistriga Warr. (1906, Ochyria); 8. falsidica Warr. (1906, Eucymatoge); 9. nigribasis Warr. (1906, Eucymatoge).

28. Desmoclystia prodicia sp. nov.

δ♀, 23-25 mm. Extremely similar to falsidica Warr., searcely distinguishable except as follows:

Antenna in \Im with the joints projecting, the projections bearing pairs of slender fascicles of cilia slightly longer than diameter of shaft (in *falsidica* the joints do not project appreciably and the ciliation is shorter than diameter of shaft).—Hindwing above on an average paler, especially towards termen. Both wings beneath with the distal area less conspicuously darkened, bisected by a whitish subterminal line of inter-neural dashes, which are not or scarcely indicated in *falsidica*.

British New Guinea: Angabunga River, 6,000 ft. upwards, November 1904 to February 1905; Biagi, Mambare River, 5,000 ft., April 1906. A series collected by A. S. Meek, the type from the first-named locality.

29. Collix basicristata sp. nov.

 $\$ \$\text{\$\\$\\$}\$, 35 mm. Face black-mixed. Palpus not quite so long as in *hypospilata* Guen. (about $2\frac{1}{4}$), strongly mixed with black on outer side; 2nd joint with strongly projecting triangular scaling above. Antenna closely lamellate, as in *hypospilata*. Abdomen dorsally with the confused mottling of that species.

Forewing slightly more shouldered near base than in hypospilata, otherwise similar in shape; slightly less dark and less rufescent; recognisable at once by having a small tuft of erect black scales at base and three others along M in basal area, the third (and smallest) reaching the vague pale band which separates this area from median band; raised tuft at end of cell longer than in hypospilata; markings otherwise similar, but with the lines of median area rather finer, weaker and more uniform, the dark dashes between subterminal and termen less developed.—Hindwing rather narrower than in hypospilata, the termen being less convex; the black cell-dot marked in its posterior part with a minute white dot; median area corresponding to that of forewing; postmedian line rather strongly excurved in middle.

Underside with cell-spots large, postmedian vein-spots not very thick, inclining to confluence, subterminal more or less strongly confluent, especially on forewing, rather thick on anterior part of forewing, thinner behind R³, with rather large spots behind M¹ and behind M², on hindwing rather thin throughout, moderately macular.

S. Flores, November 1896, dry season (Everett).

30. Horisme leucotmeta sp. nov.

 \Im , 26 mm.; \Im , 28 mm. Face white, mixed with blackish scaling, which sometimes forms a transverse band above middle. Palpus 2; 2nd joint with long, loose scaling beneath, 3rd rather elongate; blackish, mixed (especially at ends of joints) with white. Antennal ciliation minute (less than $\frac{1}{4}$). Occiput and collar light brown. Thorax and abdomen brown, mottled with blackish fuscous and (especially the thorax and end of abdomen) with white.

Wing-shape and general effect of brunneata Warr. (Novitates Zoologicae, xiii. 116).

Forewing with the brown median area darker (more black-mixed) and con-

taining in its middle a white patch reaching from costa about to M, rather variable in width, before R³ with a tendency to longitudinal extension (faintly suggesting that of notata Rothsch., Lep. Brit. Orn. Un. Exp., p. 94), the elongate black cell-mark placed on its proximal cdge; basal patch at costa 2·5 mm., at hindmargin not quite 2 mm., its margin scarcely more irregular than in contaminata Warr. (Novitates Zoologicae, xiii. 117); intermediate area with some ferruginous spots, behind SM² rather clear white; antemedian excurved, fairly regular; postmedian bilobed, much as in brunneata; some ferruginous shading beyond, especially between the radials, the proximal border of the distal area here (as in several of the group) forming a rather conspicuous dark, ferruginous-mixed streak; subterminal white line lunulate, much more distinct than in brunneata; an oblique white dash from apex.—Hindwing and underside much as in brunneata, the subterminal rather more distinct.

Dutch New Guinca : Mount Goliath, 5,000–7,000 ft., January–February 1911, 3 &5, 2 $\mbox{$\mathbb{Q}$}$.

31. Horisme symmetrozona sp. nov.

3, 22-24 mm. Structure and general coloration of body-parts nearly as in illustris Prout (Novitates Zoologicae, xxiii. 31), the palpus with third joint scarcely so long, the abdomen with the dark parts somewhat accentuated.

Forewing with the same strong gloss and the same colours as in illustris, their distribution quite different; basal patch much as in illustris; succeeding area traversed to near hindmargin by an ochraceous band; median area blackbrown, comparatively solid and regular, at costa about 4 mm. wide, at hindmargin about 3, its proximal edge gently curved and with a small bend or tooth at fold, its distal with a small acute tooth inward at SC⁵ and a small lobe at R⁵; the white postmedian only duplicated at costa; a fairly broad, slightly irregular ochraceous shade between postmedian and subterminal.—Hindwing much as in illustris, the postmedian weaker and much less acutely angled, the subterminal at least as strong as in illustris.

Underside almost as in *illustris*, except for the less angulated postmedian of hindwing.

Dutch New Guinea: Mount Goliath, 5,000-7,000 ft., January 1911, 3 33, including type, February 1911, 2 33 (A. S. Meek).

32. Horisme genuflexa sp. nov.

♂♀, 30-32 mm. Similar at first glance to large brunneata Warr., such as were taken with it on Mount Goliath. Structure much the same (i.e. as in illustris Prout, etc.). Collar ferruginous. A longitudinal ferruginous dash on prothorax.

Forewing with basal patch about as in contaminata Warr. (Novitates Zoologicae, xiii. 117); median band broad, its edges more mixed with black than in brunneata, especially at costa and hindmargin; antemedian fairly direct to fold, then suddenly bent inward strongly, recalling that of Euphyia basochesiata Dup.; postmedian with a conspicuous, inwardly curved black mark between the radials, followed distally by a white and then a tawny one; then follows an interrupted, dark ferruginous line, bounding proximally the blurred

distal area; cell-mark divided into a pair of minute dots, as is usually the case also in brunneata.—Hindwing and underside much as in brunneata.

Dutch New Guinea: Mount Goliath, 5,000-7,000 ft., January 1911, a pair (A. S. Meek).

33. Collix multifilata infecta subsp. nov.

 $\Im \mathcal{Q}$. Darker than m. multifilata Warr. (1896), from North Queensland, the ochreous ground-colour being more densely irrorated, the dark lines thick and rather ill-defined; the clear ochreous costal spots narrower and less conspicuous.

Louisiades: Rossel Island (the type of from Mount Rossel, 2,100 ft., December 1915-January 1916); Sudest Island; St. Aignan. A good series collected by A. S. Meek and W. F. Eichhorn.

34. Hoplosauris limnetes sp. nov.

♂♀, 31-32 mm. Head and palpus white-grey, mottled with fuscous; the palpus over 1, with the 3rd joint deflexed. Antenna in ♂ slightly thickened in the middle, tapering to a fine point at tip. Thorax whitish, mixed—more heavily above—with fuscous and with a darker metathoracic crcst. Abdomen long and thin, especially in ♂; mostly pale.

Forewing (especially in 3) elongate, with apex rather acute and termen rather strongly oblique, gently curved; cell not very broad distally, DC bent to become oblique, both areoles ample, R1 shortly stalked; general tone greyish, the whitish ground-colour being irrorated and rippled with fuscous and—especially in the 3-some brighter brown; basal area nearly 3 mm., somewhat suffused proximally, marked with a vague brown band or double line distally, the first of these lines blacker than the second, both somewhat angled outward before middle; the succeeding pale area traversed by some similar lines of variable intensity, leaving the usual clear, bisected space proximal to the median band; the latter moderately broad (circ. 4-4.5 mm.), its proximal edge slightly angled outward in cell and curving outward behind SM2, its distal with a slight tooth at SC3, small double lobe (anteriorly stronger than posteriorly) in middle and outward bend behind SM2, both its sides brown (especially in the 33), its centre greyer, with a minute cell-dot closely followed by a rather irregular dark line; the usual bisected pale space beyond median band; subterminal line whitish, irregularly lunulate-dentate, in places blurred; some dark costal marks proximally to it; a very small oblique blackish dash just behind apex, pointing to (but not touching) a blackish spot in cellule 6; a terminal line of subconfluent paired spots; fringe with a darker central line.—Hindwing in & small and narrow, in Q less small; cell in 3 extremely short (scarcely over one-fourth), C remote, connected by a bar, SC²-R¹ on a long, somewhat curved stalk, DC slightly incurved, R2 central, R3-M1 stalked, running to tornus, a slight vein (M²?) placed very near base and oblique inward, abdominal margin cut away, with a small, long-fringed lobe at base; Q venation normal (C anastomosing, DC biangulate, M1 approximated but not stalked); whitish, tinged—especially distally-with fuscous.

Forewing beneath glossy, with the markings vague, fading out towards hindmargin, which, together with the hindwing, is pale and devoid of markings.

Patagonia: Valley del Lago Blanco, Chubut (Thursby), type 3 and another pair; Punta Arenas, February 17th, 1908 (Mutschke), a 3 in coll. Deutsch. Ent. Mus.

Seems to be a true *Hoplosauris*, but as Butler's generic diagnoses are worthless and the Chilian genera of the group have not been revised, I have given the chief structural characters.

SUBFAM. GEOMETRINAE.

35. Arycanda hypanis tenuisignata subsp. nov.

Rather more bluish-grey than h. hypanis Cram. Upperside with the lines much thinner, subterminal spots smaller. Underside more weakly marked and with the postmedian line thinner.

New Guinea: Arfak Mountains, Snow Mountains, Owen Stanley Range, Hydrographer Mountains. Type & from Ninay Valley, Central Arfak Mountains, 3,500 ft., November 1908 – January 1909.

Cramer's type of hypanis (Uitl. Kapellen, ii. 72, t. cxlii D, inaccurately registered by Sherborn, Ind. Anim., i. 473, as hypanus, from a misprint in the French text), as is well known to workers at Indo-Australian Geometridae, was quite obviously from Amboina, not from "Surinam" as given, and maculifera Walk., List Lep. Ins., xxxi. 123, is an absolute synonym.

36. Cosmethis woodfordii disparilis subsp. nov.

Differs from w. woodfordii Butl. (Ann. Mag. Nat. Hist. (5), xix. 215 = ampliplaga Warr., 1905, bougainvillicola Strand, 1915), from Bougainville and Shortlands, in that the abdomen in the \Im is cadmium orange almost to the base (as in w. siriella Druce, 1888, from Guadalcanar), while in the \Im it remains, as in the name-typical race, black nearly to the tip. In both sexes the white markings, though variable, are on an average considerably reduced in size. From w. siriella \Im it differs in the narrower longitudinal spot near base of forewing, longer subapical patch (reaching M^2 instead of M^1), and general retention—though in greatly reduced size, often quite minute—of the additional spot of w. woodfordii (near base of R^3 and M^1). The forms from Choiscul and Florida Islands (w. floridensis Warr., 1903) are somewhat transitional between the name-type and the new form, the abdomen being as in the former, the maculation nearer the latter, though with the subbasal patch larger.

Solomon Islands, western group: Rendova, $4 \circlearrowleft \circlearrowleft$, $4 \circlearrowleft \circlearrowleft$, including \circlearrowleft type; New Georgia, $2 \circlearrowleft \circlearrowleft$, $3 \circlearrowleft \circlearrowleft$, $4 \circlearrowleft$, $4 \circlearrowleft \circlearrowleft$, $4 \circlearrowleft$,

This group has evidently no special connection with *Bordeta*, with which Warren placed it; R° of the forewing does not arise so far forward, the shape and coloration are different, the δ possesses a fovea, etc. Provisionally I regard it—by short cell of hindwing and other characters—as a section of *Cosmethis* Hb. (type *barbara* Stoll) and as probably one collective species; although the slightly more extreme reduction of hindwing cell in *siriella* may indicate a specific divergence, the new race seems almost to intergrade.

37. Bandobena apicalis pyrigona subsp. nov.

Q, 42-46 mm. Smaller than a. apicalis Walk., from S. Celebes. Forewing with the black streak at base of costa reduced to a thin, incon-

spicuous line; the red area broadened, in the type reaching to M, in both the examples twice as broad tornally as in typical apicalis.—Hindwing with the termen perhaps slightly more bent than in a. apicalis, the red border twice as broad, with its proximal edge less regular, the black ground-colour projecting bluntly but noticeably at the veins, especially at R³.

N. Celebes: Tondano, September-October 1899, 2 QQ.

The only example known to me from Central Celebes is intermediate, the forewing resembling a. pyrigona, the hindwing a. apicalis.

38. Bordeta bursadoides dignitosa subsp. nov.

त्र. Tegula dark slaty grey, little paler than the head and thorax.

Forewing with the golden yellow band deeply coloured, broader than in b. bursadoides Warr. (1909), at least as broad as in the larger, less deeply coloured race superior Prout (1916); a conspicuous slate-grey spot between fold and SM² at about three-fourths (sometimes indicated in abs. of the other races).——Hindwing with the yellow area very ample, at abdominal margin 4-5 mm.

Goodenough Island, 2,500-4,000 ft., March 1913 (A. S. Meek), 2 ♂♂, 6 ♀♀.

39. Craspedosis flavimedia auriflua subsp. nov.

3♀. Differs from f. flavimedia Warr. (1899) in the development of additional orange markings; the most constant is a longitudinal subcostal streak on the upperside of the forewing near the base, sometimes extended more obliquely, (parallel with proximal edge of central band) as far as fold, so as to form a bent half-band. Proximal area of forewing nearly always more or less strongly suffused or mottled with orange. Hindwing beneath nearly always with thin or broad orange longitudinal suffusion about the fold (not reaching base or termen) and always with some orange irroration on some of the veins. In one ab. the yellow submedian suffusion of hindwing is indicated also above, is very extended beneath and here joins an incomplete postmedian band, which reaches forward nearly to R¹, while the forewing beneath has indications of a corresponding postmedian band from R¹ to tornus.

Goodenough Island, 2,500-4,000 ft., March 1913 (A. S. Meek), 7 & 3, 1 \(\text{?}. \)
Except in one \(\partial \), which has the band of forewing almost typical in shape, the distal edge of this band is more curved, thus more nearly approaching the proximal edge at costa.

40. Craspedosis transtinens sp. nov.

3♀, 40–51 mm. Very similar to semiplaga Warr. (1896), of which laticlava Warr. (1903) seems to be clearly a rather larger, broader-banded race. Easily distinguished, however, as follows:

semiplaga.

transtinens.

Terminal joint of palpus extremely short, not distinct.

Fovea obsolescent.

White band of f.w. terminating at SM², not noticeably tapering.

Anal tuft of 3 mixed with whitish.

Terminal joint of palpus much less short, distinct.

Fovea well developed.

White band of f.w. continuing to tornus, tapering posteriorly.

Anal tuft of 3 concolorous.

British New Guinea: Upper Aroa River, April 1903, type and others; Angabunga River: Biagi, Mambare River; Hydrographer Mountains. Dutch New Guinea: Ninay Valley, Central Arfak Mountains; Upper Setekwa River and near Oetakwa River, Snow Mountains.

Mr. Warren seems to have correctly sorted the Upper Aroa specimens into two series, but to have neglected to consult his Fergusson Island type; for he has labelled the new species as semiplaga, the form which I believe to be a race of the true semiplaga as laticlava. It is just possible that the true semiplaga and uniplaga Warr. (1896) are dimorphs of a single species, without and with a white patch on hindwing, as their structure seems to agree; but this would not affect the status of the new species.

41. Milionia xanthobathra sp. nov.

 \bigcirc , 56 mm. Eye minutely hairy. Antennal ciliation long for a \bigcirc , almost as in *weiskei* Rothsch. (1901). Head, tegulae and a spot in front of patagia predominantly metallic blue; palpus at ends of joints spotted with the same. Thorax and abdomen above orange, shading off to grey; beneath blacker, slightly mixed with blue.

Forewing rather broad, a little recalling dulitana Rothsch. (1897), though not quite so extreme; deep orange (almost cadmium-orange); a black costal border proximally, just entering the cell; an oblique, subtriangular black band across middle of wing, sharply defined distally but not proximally, tapering to a point at hindmargin near tornus, widening to 5 or 6 mm. where it joins the proximal streak; a black distal border, 8 or 9 mm. wide at costa, tapering to a point at tornus, its proximal edge very slightly concave.—Hindwing orange, with black borders at costal margin (just entering the cell) and termen, the latter tapering almost to a point at tornus, gradually widening to about 5 mm. at apex; a shadowy indication of the dark basal and inner-marginal black of underside.

Forewing beneath black, with broad orange band corresponding to the discal band of upperside; some blue scaling at base, extending in streaks about SC and R and along M to just beyond the origin of M². Hindwing black, with a very large oval orange patch in middle, extending from near C to near SM², its greatest longitudinal diameter 7 mm.; proximal blue streaks br ader than on forewing.

Dutch New Guinea : near Oetakwa River, Snow Mountains, up to 3,500 ft., October–December 1910, 2 \Im

The general colour-scheme slightly recalls dulitana, but there are abundant differences in shape, extent of the orange areas, increase of metallic blue scaling (in some light Nile-blue or even green), etc. Really nearer, at least on the forewing, to the unique flavostriga B.-Bak. (Ann. Mag. Nat. Hist. (8) vi. 454, the type a \Im , not " Υ " as printed), not inconceivably a Υ form thereof.

42. Milionia isodoxa sp. nov.

3, 45-48 mm. Similar to aroensis Rothsch. (1904) and euglennia Rothsch. and Jord. (1907), agreeing structurally with the latter in the absence of the apical area of modified scales on the hindwing beneath. Head and tegulae in most lights less greenish, thus less contrasted with base of wings.

Wings coloured as in *fulgida* Voll., the proximal part having a considerable extension of the bright greenish-blue scales as compared with its New Guinea allies.

Forewing with the bright blue basal area extending nearly 6 mm. anteriorly, 7 or 8 mm. behind SM², distally irregular, though less deeply indented than in lamprima Rothsch. & Jord. (1907)—much more sharply defined than in euglennia; a narrow, ill-defined deep-blue area between this and the black ground-colour, which shows blue reflections, as in the allies; band red in 4 examples, red-orange in one, about 3 mm. wide, less curved than in euglennia, thus less proximal at costa, which it quits perpendicularly; its proximal edge straightish, its distal placed outside DC (in euglennia often just within), very slightly curved in its posterior half.—Hindwing with the bright blue area much more extended than in euglennia, nearly as in fulgida, though much less indented, separated from the ground-colour (as in that species) by an ill-defined deep-blue area.

Underside with the blue more broken into streaks than above, these longer than in *euglennia*, additional ones developed in submedian area of hindwing, where they are obsolete (or deep-blue only) in that species.

British New Guinea: Angabunga River, St. Joseph River, 6,000 ft. upwards, November 1904 – February 1905 (A. S. Meek), 5 & 3.

43. Lobocraspeda coeruleostriga stygnota subsp. nov.

 $\Im \mathfrak{P}$. Forewing in all the examples with the subbasal spot large and round (as in rare aberrations of c. coeruleostriga Warr., 1897).—Hindwing in the \mathfrak{P} as in the broadest bordered aberrations of c. coeruleostriga or still more extreme, in the \Im with the yellow area restricted and heavily suffused with olive-grey (type and others), in the most extreme examples blackish throughout.—Underside in all the $\Im \Im$ almost entirely blackish.

N.E. New Guinea: Rawlinson Mountains, inland of Huon Gulf (Ch. Keysser), a good series.

44. Boarmia subdetractaria nom. nov.

Boarmia detractaria Walk., List Lep. Ins., xxi. 385 (1860) (nec xxi. 357). Dryocoetis subdetractaria nom. nov. Warr. MS. (in coll. Tring Mus.).

Swinhoe (Cat. Lep. Het. Oxf. Mus., ii. 293) notes that Walker used the name Boarmia detractaria twice and that "therefore this name should fall," but does not see any necessity for renaming the Indian species. Even if his assumption be granted that the genus to which the Brazilian species should be assigned (! Iridopsis Warr.) is "perfectly distinct"—which has not yet been worked out morphologically, though the latest reviser, McDunnough (Studies in North American Cleorini, Ottawa, 1920), recognises a number of valid genera in the group—the laws of homonymy demand a change, and I propose to adopt that which was made by Warren in the Tring Museum some thirty years ago, but never published.

45. Sysstema longiplaga sp. nov.

- 3♀, 28 mm. Near semicirculata Moore (Proc. Zool. Soc. Lond., 1867, p. 654), with which it has been mixed. On an average rather larger *; forewing with
- * Hampson's measurements (Faun. Ind. Moths, iii. 278) include not only this species, but also concinna Warr., which he has still more inexcusably sunk.

the dark median shade slightly more distal, absorbing the cell-spot; the white patch beyond much larger, reaching at least to M² and with some narrow and ill-defined extensions behind (in *semicirculata* ending at R³), a small accessory white spot across cellule and touching or connected with it distally; the black spots on the "orange" terminal band smaller; hindwing less clouded, in particular without the dark subtornal patch which is always characteristic of true *semi-circulata*, the abdominal border less reduced than in that species.

Sikkim, in various collections, the type \Im and 2 $\mathbb{Q}\mathbb{Q}$ from Darjiling in coll. Brit. Mus.; Turzum Tea Estate, Nagrispur (O. Lindgren), 3 $\mathbb{Q}\mathbb{Q}$ sent by T. B. Fletcher, Agric. Res. Inst. Pusa. Assam, a \mathbb{Q} in coll. Joieey; Naga Hills (W. Doherty), a small \Im (22 mm.) in coll. Tring Mus., ex coll. Elwes.

46. Nadagarodes duplicipuncta Warr.

Mr. Warren unfortunately selected no type for this species (described Novitates Zoologicae, vi. 356), and his manuscripts leave the question in some confusion. His note shows that he gradually reached the conviction that there were two closely allied species mixed, and in the Ron Island collection (made by Doherty in July 1897) he labelled the second one as ceramata Walk. Subsequently discovering that that was a synonym of mysolata Walk., he named the new species duplicipuncta; but by an accident the note "The St. Aignan specimens are all smaller than the average size," which—as his MSS. and the actual specimens show—referred to mysolata, got attached to the description of duplicipuncta. As it is highly undesirable to select as type locality the one on which an erroneous statement was published, and as it is reasonable to suppose that the Sudest and Rossel Island collections of 1898 furnished the final incentive to the publication of duplicipuncta, I have selected as its holotype and allotype a \eth and \lozenge from Sudest Island, April 1898 (A. S. Meek), the latter bearing a label in Warren's handwriting "Nadagarodes duplicipuncta Warr."

47. Nadagara synodoneura sp. nov.

3, 34-36 mm. Very like a large, rather pale, broad-winged scitilineata Walk. Hindtibia dilated, with hair-pencil.

Forewing with R² arising close to R¹ (apparently not to be regarded in this instance as a generic character, the rest of the structure and the facies being so absolutely typical for the genus); costal margin proximally with the black irroration not very dense; cell-dot above minute and shadowy, beneath well developed; postmedian line rather firm, not crenulate; whitish line at base of fringe not expanded between R¹ and apex.—Hindwing with termen more convex than in scitilineata, perhaps slightly more crenulate; fringe (except a slender proximal line) not pale.

Underside more mixed with white than in *scitilineata*, except on anterior part of forewing; forewing with an ill-defined black-grey subterminal blotch in front of R³, sometimes almost reaching apex; hindwing with the line more proximally placed than in *scitilineata*.

Dutch New Guinea: Upper Setekwa River, Snow Mountains, 2,000-3,000 ft., August-September 1910 (A. S. Meek), type and paratype. British New Guinea: Hydrographer Mountains, 2,500 ft., January 1918 (Eichhorn Bros.), 2 33.

Hampson, in defining this genus (Faun. Ind. Moths., iii. 193), gives "hind-tibia not dilated," which is only correct for about half the species.

48. Nadagara synocha sp. nov.

3, 34-36 mm. Structure about as in *inordinata* Walk. Hindtibia of 3 as in that species, not dilated; hindfemur of 3 fringed with hair. Head and body coloured as in *inordinata*. Both wings more elongate costally, the termen of forewing otherwise nearly agreeing (appreciably crenulate only near apex).

Forewing in 3 more uniformly fawn-colour or brownish than in inordinata (with less white in distal area), in ♀ more coarsely dark-irrorated, in both sexes variable; antemedian line generally well developed, strongly curved, rather strongly oblique posteriorly, white-edged proximally; cell-dot moderately large, black; postmedian line nearly as in *inordinata*, or slightly more oblique, nearly always accompanied proximally (at about 1 mm. distance) by an almost equally distinct line (representing the postmedian of the underside), which converges with it about SC⁵; proximal blackish maculation of subterminal always developed in front of R1 and in all the yet known 33 forming a conspicuous blotch in cellules 3-4 (in some QQ this blotch is obsolete, or obscured by the heavy irroration); termen with interneural black dots or dashes; fringe with pale line at base.—Hindwing whitish costally, the rest concolorous with forewing; a black cell-dot; a straightish postmedian, distally white-edged as on forewing, reaching costa much beyond hinder edge of that of forewing (as in the irretracta group); subterminal feeble in the 33, more conspicuous in the 99, where it is generally finely dark-edged proximally.

Underside variable, generally similarly marked to upperside, the chief difference on the forewing consisting in the reversal of the relative strength of the two postmedian lines, the distal one being faint, but connected with the strong proximal one by dark dashes on the veins. Hindwing with the postmedian weak, the subterminal usually strong, marked by blackish dots or teeth on the veins.

Malay Peninsula: Gunong Ijau, 3 \circlearrowleft \circlearrowleft , 4 \circlearrowleft \circlearrowleft , in coll. Tring Museum (including the \circlearrowleft type), misidentified by Warren as *pulchrilineata* Walk. Java: Pengalengan, Preanger, 2 \circlearrowleft in coll. Tring Museum; Tosari, July 6th, 1910, 1 \circlearrowleft in coll. L. B. Prout, kindly presented by Dr. E. A. Cockayne. S.W. Sumatra: North Korintji Valley, 5,000 ft., September–October 1921, a beautiful, heavily marked \circlearrowleft aberration collected by the Pratt brothers for J. J. Joicey, Esq.

49. Nadagara odontias sp. nov.

3, 36-37 mm. Head red-brown, mixed (notably on vertex) with brighter red. Thorax and abdomen reddish grey. Hindtibia dilated, with rather strong grey hair-pencil.

Forewing elongate, about as in synocha Prout (supra), but with the termen slightly more curved and noticeably more crenulate; reddish grey, irrorated and somewhat clouded with red-brown and with a few black scales; costal edge with dark longitudinal streaks alternated with pale spots or shorter streaks; cell-dot black; antemedian line at nearly one-third, moderately curved, almost obsolete, except for a black dot on base of M² and a stronger one on SM²; postmedian marked by a series of black vein-dots, slightly more oblique than termen, edged

distally by a whitish line which is very shallowly lunulate inward between the veins; a thick, ill-defined black dash proximally to this line in front of R³; a series of marks distally to it, mostly brown irrorated with black, the hindmost two black, the first running obliquely from cellule 7 to costa close to apex, the rest interneural, culminating in a longer one in cellule 3; terminal line slight and interrupted; fringe with a pale line at base and blackish spots opposite veins. ——Hindwing with termen strongly crenulate; cell-dot rather larger than on forewing, but weaker; postmedian line continued, scarcely beyond middle of wing, unaccompanied by dashes; very faint indications of a pale, irregularly lunulate-dentate subterminal; fringe as on forewing.

Underside as far as postmedian more orange-ochreous, with coarse dark irroration or minute strigulation; beyond more inclining to violet-grey; cell-dots and postmedian dots strong; forewing with vague dark postmedian clouding about R³.

Malay Peninsula: Gunong Ijau, 2 33.

50. Nadagara extractata sp. nov.

 $\Im \circ$, 30–35 mm. Head and collar tawny, the face narrowly edged with white. Palpus in the \Im almost 2, in the \Im slightly longer; brown (rarely much mixed with tawny), beneath narrowly white. Tegulae fuscous. Thorax and abdomen concolorous with wings, the abdomen very finely whitish at ends of segments. Legs with some black scales at base of spurs; hindtibia of \Im dilated, with hairpencil.

Wings shaped nearly as in *intractata* Walk., the distal margins being slightly crenulate (especially that of hindwing), the forewing minutely produced at apex, somewhat gibbous at midtermen.

Forewing pale grey, tinged with fawn-colour in the \Im , more violaceous in the \Im ; irroration fine; costal edge narrowly fuscous, with pale dots; antemedian line excurved and somewhat irregular, never strong, often almost or altogether obsolete; cell-dot small, black; postmedian strong, oblique, very slightly curved, scarcely crenulate, blackish, accompanied proximally by brown shading and distally by a fine whitish line, at costa about 2 mm. from apex, at hindmargin about 4 mm. from tornus; subterminal line indistinct, accompanied proximally by very faint dark shading and often by a more or less conspicuous double spot at R^3 ; terminal line brown, rather variably marked with interneural black dots or dashes (strongest anteriorly); fringe with a pale line at base.—Hindwing concolorous, at costal margin paler; cell-dot and postmedian as on forewing, the latter not crenulate, arising distally to the hinder end of that of forewing, though less far from it than in irretracta Warr., argyrosticha Turn., and reprensata Prout; subterminal and its proximal shade nearly always stronger than on forewing, but never with a blotch at R^3 .

Underside variable, a great part of the forewing generally rather more ochraceous than above, its distal and posterior parts, with the entire hindwing, paler; all more or less heavily irrorated or strigulated, as in the allies; cell-dots strong; postmedian line less oblique than above, marked by blackish teeth or dots on the veins, sometimes obsolete between; subterminal line and shade often strong, though rather irregularly, the latter expanding to a blotch near apex of forewing.

Louisiades: Mount Rossel, Rossel Island, 2,100 ft., December 1915, 4 $\circlearrowleft \circlearrowleft$, 5 $\circlearrowleft \circlearrowleft$, including the \circlearrowleft type; Mount Riu, Sudest Island, April 1916, 1 \circlearrowleft , 5 $\circlearrowleft \circlearrowleft$ all collected by Eichhorn Bros. Paratypes from the latter locality are in coll. Joicey.

Very near *irretracta* Warr. (Novitates Zoologicae, vi. 356, type ♀ from Tulagi Island, Solomons—not type ♂, Tugela Island, as printed), smaller, palpus darker, wings less elongate, generally more strongly marked, postmedian line less oblique; underside rather recalling that of *tractata* Prout (Novitates Zoologicae, xxiii. 44).

51. Psilocladia diaereta sp. nov.

 $\,$ $\,$ $\,$ $\,$ 33–37 nm. Face and palpus mixed with dark brown; palpus shortish-moderate. Antenna subserrate. Head, body, and legs whitish brown, with some darker irroration.

Forewing with termen flexuous but not dentate; tornal lobe well developed; the coincident vein (SC¹ + ²) free (in the left forewing of the type anastomosing very slightly with C); whitish brown, irrorated with wood-brown and more sparingly with dark grey; cell-spot dark grey, not very sharp, closely followed by an indistinct brown median line; distal area vandyke-brown (in proximal half clouded with black), its proximal edge 4 or 5 mm. from apex, 1 mm. from tornus, very gently incurved between R¹ and SM²; a subapical wisp of the ground-colour between SC⁵ and R¹; fringe dark proximally, pale distally.——Hindwing broader than in the type species, the excavation between SC⁵ and R³ deeper; cell-dot almost or altogether obsolete; median line very faint, just proximal to DC; dark border as on forewing, but without subapical mark; fringe as on forewing.

Underside similar, the cell-spot and median line of forewing stronger.

Nairobi (Dr. van Someren), May 30th, 1919 (type), and June 11th, 1919 (paratype).

Probably near loxostigma Prout (Novitates Zoologicae, xxii. 380), but larger, rather narrower-winged, with deeper excision in termen of hindwing, the dark borders much more contrasting, differently shaped, the pale subapical mark of forewing elongate.